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77213 7590 06/11/2009 Novak Druce + Quigg, LLP 1300 Eye Street, NW, Suite 1000 Suite 1000, West Tower Washington, DC 20005				
EXAMINER				
WONG, EDNA				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/584,068

Applicant(s)

SCHNETZ ET AL.

Examiner

EDNA WONG

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2009.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 11-15 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-8 and 11-15 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-8508)
4) ☐ Interview Summary (PTO-413)
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____
Paper No(s)/Mail Date _____

This is in response to the Amendment dated May 11, 2009. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office Action.

Response to Arguments

Claim Objections

Claim 1 has been objected to because of minor informalities.

The objection of claim 1 has been withdrawn in view of Applicants' amendment.

Claim Rejections - 35 USC § 112

I. Claim 8 has been rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The rejection of claim 8 under 35 U.S.C. 112, first paragraph, has been withdrawn in view of Applicants' amendment.

II. Claims 1-8 and 11 have been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The rejection of claims 1-8 and 11 under 35 U.S.C. 112, second paragraph, has been withdrawn in view of Applicants' amendment.

III. Claim 8 has been rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: between the anode front wall and the remainder of space.

The rejection of claim 8 under 35 U.S.C. 112, second paragraph, has been withdrawn in view of Applicants' amendment.

Claim Rejections - 35 USC § 103

I. Claims 1-2, 5-8 and 11 have been rejected under 35 U.S.C. 103(a) as being unpatentable over **Allen** (US Patent No. 2,719,820) in combination with **Schober** (US Patent No. 4,164,454), **Delfrate et al.** (US Patent No. 5,582,708), **Avellone** (US Patent No. 4,367,125), and **Sato et al.** ("Manufacturing of One-Side Electrogalvanized Steel Strip with Heavy Coating", *Transactions ISIJ*, Vol. 23 (1983), pp. 946-953).

The rejection of claims 1-2, 5-8 and 11 under 35 U.S.C. 103(a) as being unpatentable over Allen in combination with Schober, Delfrate et al., Avellone, and Sato et al. is as applied in the Office Action dated February 10, 2009 and incorporated herein. The rejection has been maintained for the following reasons:

Applicants state that the Office action errs by asserting Allen Figure 1 provides evidence that each anode has a top and a bottom and each anode front wall is closer to the strip it faces at the bottom than at the top. MPEP § 2125 states proportions of features in drawings are not evidence of actual proportions when drawings are not to scale. When the reference does not disclose that the drawings are to scale and is silent as to dimensions, arguments based on measurement of the drawing features are of little value.

In response, MPEP § 2125 recites that when the reference is a utility patent, it does not matter that the features shown is unintended or unexplained in the specification. The drawings must be evaluated for what they reasonably disclose and suggest to one of ordinary skill in the art.

Allen shows the feature of wherein each anode has a top and a bottom and each anode front wall is closer to the strip it faces at the bottom than at the top in Fig. 1.

Allen teaches that "Figure 1 is a side elevational view, in which some details are shown schematically, of a portion of a metal coating apparatus embodying features of the present invention" (col. 1, lines 52-55).

Although the reference does not disclose that the drawings are to scale and is silent as to dimensions, this argument is irrelevant since there is no scale or dimension of the anodes recited in the present claims. It is well settled that unpatented claims are given the broadest, most reasonable interpretation and that limitations are not read into the claims without a proper claim basis therefor. *In re Prater* 415 F. 2d 1393, 162 USPQ

541 (CCPA 1969); *In re Zeltz* 893 F. 2d 319, 13 USPQ 1320.

Applicant state that there is no apparent reason existed to violate Allen's teaching that the anodes are to be made of the material to be electrodeposited.

In response, there is no requirement that the motivation to make the combination be expressly articulated in one or more of the references. The teaching, suggestion or inference can be found not only in the references but also from knowledge generally available to one of ordinary skill in the art. *Ashland Oil v. Delta Resins* 227 USPQ 657 (CAFC 1985). The test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. *In re McLaughlin* 170 USPQ 209 (CCPA 19710; *In re Rosselet* 146 USPQ 183 (CCPA 1960). References are evaluated by what they collectively suggest to one versed in the art, rather than by their specific disclosures. *In re Simon* 174 USPQ 114 (CCPA 1972); *In re Richman* 165 USPQ 509, 514 (CCPA 1970).

Applicants state that upon employing the Schober anode bags or baskets, a skilled artisan had no apparent reason to specifically shape the anode configuration by positioning the anode baskets such that the bottom of each front wall is closer to the metal strip than the top of each front wall.

In response, the rejection is not overcome by pointing out that one reference does not contain a particular limitation when reliance for that teaching is on another

reference. *In re Lyons* 150 USPQ 741 (CCPA 1966). Moreover, it is well settled that one cannot show nonobviousness by attacking the references individually where, as here, the rejection is based on a combination of references. *In re Keller* 208 USPQ 871 (CCPA 1981); *In re Young* 159 USPQ 725 (CCPA 1968).

Applicants state that the Office action errs by asserting Schober teaches edge masks (moveable or not). The Office action cites column 3, lines 52 - 56 and Figure 7. Neither citation discloses edge masks. Column 3, lines 52 - 56 states, "[e]ach side wall has L-shaped mounting brackets 65 to position an outer anode bag or basket 66 ... as well as masks to control plating uniformly, if required." No further description of the masks is provided. There is no disclosure that the masks are "edge masks" elongated substantially vertically on the front wall of each anode basket.

In response, the rejection is not overcome by pointing out that one reference does not contain a particular limitation when reliance for that teaching is on another reference. *In re Lyons* 150 USPQ 741 (CCPA 1966). Moreover, it is well settled that one cannot show nonobviousness by attacking the references individually where, as here, the rejection is based on a combination of references. *In re Keller* 208 USPQ 871 (CCPA 1981); *In re Young* 159 USPQ 725 (CCPA 1968).

Schober teaches masks; Delfrate teaches that masks border anodes; Avellone teaches that masks slide along a region of a guide parallel to the anode plating surface; and Sato teaches edge masks.

The test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. *In re McLaughlin* 170 USPQ 209 (CCPA 1971); *In re Rosselet* 146 USPQ 183 (CCPA 1960). References are evaluated by what they collectively suggest to one versed in the art, rather than by their specific disclosures. *In re Simon* 174 USPQ 114 (CCPA 1972); *In re Richman* 165 USPQ 509, 514 (CCPA 1970).

Applicants state that Schober stresses the central feed of the plating solution from the conduits 67 and 71 through the stub conduits 69 and 74 to the anode baskets overcomes electrical edge effects (See column 3, line 66 - column 4, line 4, for example). Thus, since the edge effects are overcome the masks would not be edge masks; they would be some other kind of mask. For example, maybe they would have been the transverse masks of Botts (US 5,776,327) that have already been distinguished from the present vertical edge masks.

In response, the electrolytic cell disclosed by Allen doesn't have conduits (Fig. 1). Thus, using the masks disclosed by Schober in the tank 13 disclosed by Allen to control the uniformity of the plating would have been edge masks because edge masks control the uniformity of the plating as taught by Delfrate, Avellone and Sato.

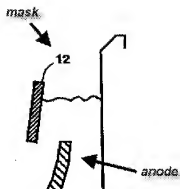
Applicants state that masks 4A, 4B of Delfrate are horizontally oriented and transverse to the direction of movement of metal strip B. This orientation is opposite to

the present invention.

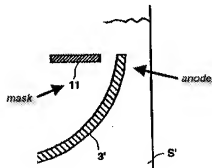
Applicants state that Avellone does not describe or provide any apparent reason to employ moveable edge masks elongated substantially vertically on the front walls of anode baskets. Moreover, as discussed above, a person having ordinary skill would have had no apparent reason to employ edge masks upon employing the anode bag or basket described in Schober. Also, the paragraph bridging Avellone, cols. 3 and 4, requires a uniform gap between the anode and the strip. This is the opposite of the present invention having an anode bottom closer to the strip than is the anode top. Also, the Avellone anode is above and possibly below the strip. Thus, this is a horizontal process and there is no teaching that the reason for using the masking plates applies to the present substantially vertical plating process.

In response, the orientation of the masks is a result-effective variable and one having ordinary skill in the art has the skill to calculate the orientation that would have determined the success of the desired reaction to occur, e.g., edge buildup (MPEP § 2141.03).

Since the anodes are vertically oriented in the electrolytic cell **10** disclosed by Allen, one having ordinary skill in the art would have the envisaged from the prior art to orient the masks vertically with respect to vertical anodes, like this:



rather than horizontally with respect to vertical anodes, like this:



The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Applicants state that Sato relates to processes developed for manufacturing one-side electrogalvanized steel strips. Thus, Sato's teachings regarding the use of edge masks are not relevant to two-side electrogalvanizing. Moreover, on page 950, Sato explains, even when edge masks are used, whiskers can grow up on the edge of a strip and it is impossible to completely eliminate the occurrence of whiskers, and therefore, it is necessary to remove them mechanically.

In response, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Furthermore, the selection of old parts to operate in new environments in order to achieve the same results was held to have been obvious. *In re Ross* 105 USPQ 237. And the substitution of known equivalent structures was held to have been obvious. *In re Ruff* 118 USPQ 343 (CCPA 1958).

II. Claims **3 and 4** have been rejected under 35 U.S.C. 103(a) as being unpatentable over **Allen** (US Patent No. 2,719,820) in combination with **Schober** (US Patent No. 4,164,454), **Delfrate et al.** (US Patent No. 5,582,708), **Avellone** (US Patent No. 4,367,125), and **Sato et al.** ("Manufacturing of One-Side Electrogalvanized Steel

Strip with Heavy Coating", *Transactions ISIJ*, Vol. 23 (1983), pp. 946-953) as applied to claims 1-2, 5-8 and 11 above, and further in view of **Kinghorn** (US Patent No. 5,454,929).

The rejection of claims 3 and 4 under 35 U.S.C. 103(a) as being unpatentable over Allen in combination with Schober, Delfrate et al., Avellone, and Sato et al. as applied to claims 1-2, 5-8 and 11 above, and further in view of Kinghorn is as applied in the Office Action dated February 10, 2009 and incorporated herein. The rejection has been maintained for the reasons as discussed above.

Applicants' remarks have been fully considered but they are not deemed to be persuasive.

Response to Amendment

Claim Rejections - 35 USC § 112

I. Claims **12 and 13** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 12

lines 11-12, recites "a tin coating distribution".

Applicants' specification, pages 1-8, does not disclose a tin coating distribution.

Thus, there is insufficient written description to inform a skilled artisan that applicant was in possession of the claimed invention as a whole at the time the application was filed.

However, there is sufficient written description for a tin coating thickness distribution (page 5, lines 10-11)

The Examiner has carefully considered the entire specification as originally filed, however, there is found no literal support in the specification for the new limitation in new claim 12. Applicants have not provided the page number and line numbers from the specification as to where the newly added limitations are coming from. *Ex parte Grasselli*, 231 USPQ 393 (Bd. App. 1983) *aff'd mem.* 738 F.2d 453 (Fed. Cir. 1984).

II. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8

line 3, it is unclear what is meant by "facing the moving strip to directly the moving strip".

III. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP

§ 2172.01. The omitted structural cooperative relationships are: between the electroplating solution and the electrolyte.

Claim 1

lines 6-7, recite "plating the moving strip by anodically dissolving the tin anodes facing the strip into an electroplating solution".

Claim 3

lines 4-5, recite "being electrochemically inert in an electrolyte used to anodically dissolve the tin pellets".

It is unclear how the tin pellets are anodically dissolved by both an electroplating solution and an electrolyte.

Claim Rejections - 35 USC § 103

I. Claims **14 and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Allen** (US Patent No. 2,719,820) in combination with **Schober** (US Patent No. 4,164,454), **Delfrate et al.** (US Patent No. 5,582,708), **Avellone** (US Patent No. 4,367,125), and **Sato et al.** ("Manufacturing of One-Side Electrogalvanized Steel Strip with Heavy Coating", *Transactions ISIJ*, Vol. 23 (1983), pp. 946-953) as applied to claims 1-2, 5-8 and 11 above.

Allen, Schober, Delfrate, Avellone and Sato are as applied above and

incorporated herein.

The method of Allen differs from the instant invention because Allen does not disclose the following:

a. Wherein the edge masks are operated from a distance from the plating line to move the edge masks to adjust transverse overlap of the edge mask and strip, as recited in claim **14**.

b. Wherein the longitudinal axis of the moving strip facing the front wall does not oppose the moveable edge masks, as recited in claim **15**.

Avellone teaches that:

Tests have shown that by continuously masking off a portion of the current flow, it is possible to eliminate these phenomena. During plating, the masking plates are positioned so that, depending on operational current density, their edges nearly coincide with or overlap the edge of the workpiece (see FIG. 5). With the masks in this position, it has been observed that neither the trees nor the nodules appear along the edge of the workpiece. Excess plating deposition on or close to the strip edge is prevented because current path is not continuous beyond the strip edge.

One technique for mounting the plating masks is shown in FIG. 3. A mask plate guide 104 is attached to the frame 88 and is therefore fixed in relation to the anode unit. The masks 100, slide along a region 106 of the guide parallel to the anode plating surface. The vertical positioning of the guide 104 is such that by sliding the mask 100 along this region 106, the mask reduces the area of current flow within the gap between the anode and strip. Positioning of the masks varies depending upon the width of the material to be plated. Should adjustments be deemed necessary due to tree or nodule growth, the masking plates are moved to the desired position manually or automatically along the guide 104. In this way, the plating user maintains control over the masking width and can vary that positioning depending upon the results obtained during the plating process (col. 8, lines 13-49).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the edge masks described by the Allen combination with wherein the edge masks are operated from a distance from the plating

line to move the edge masks to adjust transverse overlap of the edge mask and strip; and wherein the longitudinal axis of the moving strip facing the front wall does not oppose the moveable edge masks because the remote control of the edge masks would have been the rearrangement of those parts. The rearrangement of parts was held to have been obvious. *In re Japiske* 86 USPQ 70 (MPEP § 2144.04(C)).

II. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Allen** (US Patent No. 2,719,820) in combination with **Schober** (US Patent No. 4,164,454), **Delfrate et al.** (US Patent No. 5,582,708), **Avellone** (US Patent No. 4,367,125), and **Sato et al.** ("Manufacturing of One-Side Electrogalvanized Steel Strip with Heavy Coating", *Transactions ISIJ*, Vol. 23 (1983), pp. 946-953).

Allen, Schober, Delfrate, Avellone and Sato are as applied as discussed above and incorporated herein.

III. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Allen** (US Patent No. 2,719,820) in combination with **Schober** (US Patent No. 4,164,454), **Delfrate et al.** (US Patent No. 5,582,708), **Avellone** (US Patent No. 4,367,125), and **Sato et al.** ("Manufacturing of One-Side Electrogalvanized Steel Strip with Heavy Coating", *Transactions ISIJ*, Vol. 23 (1983), pp. 946-953) as applied to claim 12 above, and further in view of **Walker** (US Patent No. 3,300,396).

Allen, Schober, Delfrate, Avellone and Sato are as applied above and

incorporated herein.

The method of Allen differs from the instant invention because Allen does not disclose wherein the anode basket is covered with an anode bag, as recited in claim **13**.

Like Allen, **Walker** teaches electroplating tin (col. 5, lines 60-62). Walker teaches that:

As forming a part of the present invention, and as particularly directed to the anode container 11, there is provided a sludge-collecting bag constructed of fiberglass. The said bag completely encloses the cylindrical body 13, and is spaced therefrom, particularly with respect to the lower closure end of the body, by means of the bail 19, above described. During the plating process, carbon sludge or other impurities will drop into bag 28. It is the primary purpose of the bag to collect the sludge particles and prevent their dropping into the electrolyte 27 (col. 5, lines 31-41).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the anode basket described by the Allen combination with wherein the anode basket is covered with an anode bag because an anode bag would have collected the sludge particles and prevented their dropping into the electrolyte as taught by Walker (col. 5, lines 31-41).

Citations

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Janssen et al. (US Patent No. 4,900,406) is cited to teach a method of electrolytic metal coating of a strip-shape metal substrate wherein each anode has a top and a bottom and each anode front wall is closer to the strip it faces at the bottom than

at the top (Fig. 1).

Poling (US Patent No. 5,798,925) is cited to teach a method for monitoring the profile of a moving web or strip. A plating cell **51** includes a conductor roll, a conductor roll grindstone, four insoluble anodes, four edge masks, counter-flow electrolyte injection headers, a sink roll, and a wringer roll (col. 3, lines 52-58).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDNA WONG whose telephone number is (571) 272-

1349. The examiner can normally be reached on Mon-Fri 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Edna Wong/
Primary Examiner
Art Unit 1795

EW
June 8, 2009